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ASSESS FOR SUCCESS:
THE ROLE OF DOCTRINE IN
EFFECTIVE COMBAT ASSESSMENT

by

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Preface

I have always been a stickler for the precision in language and, as a targeteer, the misuse of the terms battle damage assessment (BDA) and combat assessment (CA) has bothered me for many years. When I recently found out that petty arguments about these terms have blocked the publication of doctrine to address such an important process for nearly a decade, I felt compelled to study the problem further. I hope my suggestions can advance the debate in some small way.

I am grateful for the assistance I received in the course of my research from several members of the Air Force and Joint targeting communities. Captain Bob Schroeder was instrumental in helping me obtain a compilation of Service, Theater, and Joint Staff comments on the Preliminary Coordination Draft of Joint Pub 3-60. Also, my Advisor, Major Bill Busch, offered a critical eye, invaluable insight, and constant encouragement.

Finally, I must acknowledge the support, understanding, and infinite patience of my wife Julie and our children, Colleen and Danny. All three of them were forced to endure my not so cheery disposition while I worked on this paper, and I am glad to put this behind us so we can get on with our lives.

Abstract

Problems with effectively assessing the results of combat operations during Operation Desert Storm led to unnecessary restrikes of some targets, the waste of munitions, and to placing crews and equipment unnecessarily at risk. Operations since then have not fared much better. This paper examines the “BDA problem” in some detail, focusing on the current military doctrine that has evolved in recent years to address it. It begins with an examination of assessment’s role in guiding the targeting cycle that drives air operations in combat. Given that foundation, it turns to a survey of joint and service doctrine and an analysis of what appears to be an ongoing doctrinal debate on the subject. Finally, it recommends some ways to address the shortcomings that presently plague the development of this doctrine and hamper the effective implementation of adequate assessment procedures. The ultimate purpose of this study is to search for a solution to the assessment problem in the hope of maximizing the contribution the use of airpower makes to achieving military objectives and minimizing the exposure of military forces to unnecessary risk.

Chapter 1

The “BDA Problem”

The core analysis problem of Operation Desert Storm centers on tactical battlefield damage assessment . . . This was the greatest challenge and the greatest failure of the intelligence community in Operation Desert Storm.

—House Armed Services Committee¹

Most who recall the air operations against Iraq in early 1991 remember Operation Desert Storm for its many successes. That success, however, belied many problems that surfaced in the intense scrutiny that followed the operation. Chief among these was the problem of “BDA” or battle damage assessment. In their analyses of Desert Storm, the United States Congress, the Department of Defense, and the commander of allied forces during that conflict, General H. Norman Schwarzkopf, all identified “BDA problems” that seriously detracted from the effectiveness of the air campaign. According to General Schwarzkopf, “BDA was one of the major areas of confusion.”² The result, according to the Gulf War Air Power Survey (GWAPS), was that problems with reporting and evaluating BDA made General Schwarzkopf’s job of directing his forces in combat much more difficult.³ The GWAPS also found that “the evidence shows that bomb damage assessment was often inadequate or nonexistent,” and that “the control of operations exercised by the [air] planners was constrained by their lack of adequate BDA.”⁴ The consequence of this “BDA problem” was that “imperfect knowledge about the effectiveness of strikes led to unnecessary restrikes, the waste of munitions, and to placing crews and equipment unnecessarily at risk. Unnecessary restrikes also kept planners from allocating

aircraft and munitions to other targets.”⁵ The purpose of this study is to search for a solution to this problem in the hope of maximizing the contribution the use of airpower makes to achieving military objectives and minimizing the exposure of military forces to unnecessary risk.

As used here, the term “BDA problem” describes the inability of military analysts to accurately measure the effects of combat operations. Since sound military operations are designed to achieve certain objectives, progress toward those goals should guide the effort. Without the ability to accurately measure success, it is virtually impossible to effectively plan and conduct potent military operations. The primary source of this “BDA problem” lies in the fundamental question, “how does one determine what constitutes military effectiveness?” Warfare is a complex activity with many variables that are very difficult to measure. For example, different types of targets require different types of information on which to base a thorough assessment of combat operations. In Desert Storm, analysts could usually determine, by examining post-strike imagery, whether point targets such as air defense operations centers were destroyed. Similar analysis was inadequate, however, for determining the cumulative, attritional effect of air operations against Republican Guard units. And finally, the coalition had no way to determine how the weight of its effort was affecting the Iraqi leadership, if it had any effect at all.

Complicating this problem is the fact that there is a need for assessment at each of the three levels of war: tactical, operational, and strategic. Just as different information is required for assessing the effectiveness of military action against different types of targets, different analysis is needed for determining the strategic, operational, or tactical progress of those same efforts. For most of the history of airpower’s use in war, its tactical effects have been the most relevant. The lack of precision delivery systems for weapons meant that the most important question was

the pilot's query "did I hit the target?" Desert Storm saw the first efforts to assess airpower's operational results on a large scale. Unfortunately for General Schwarzkopf, the Air Force was not prepared to answer his questions about the effects of its strategic bombing or interdiction campaigns. The question of airpower's impact at the strategic level of war has been debated since World War II, but only with the benefit of hindsight can one discern an accurate picture of the air component's contribution. During the course of operations, the best analysts could do regarding strategic assessments was wait until the enemy capitulated and declare victory.

The rest of this paper examines the "BDA problem" in some detail, focusing on the current military doctrine that has evolved in recent years to address it. It begins with an examination of assessment's role in guiding the targeting cycle that drives air operations in combat. Given that foundation, it turns to a survey of joint and service doctrine and an analysis of what appears to be an ongoing doctrinal debate on the subject. Finally, it recommends some ways to address the shortcomings that presently plague the development of this doctrine and hamper the effective implementation of adequate assessment procedures. The goal is to provide a vector for future action by the joint community that will preclude another occurrence of the problems that arose during Desert Storm and that have been repeated in subsequent military actions.

Notes

¹ Quoted in Gulf War Air Power Survey, *Gulf War Air Power Survey, Volume 1, Part 2* (Washington, DC: Government Printing Office, 1993), 265.

² Quoted in Gulf War Air Power Survey, *Gulf War Air Power Survey, Volume 1, Part 2* (Washington, DC: Government Printing Office, 1993), 265.

³ Gulf War Air Power Survey, *Gulf War Air Power Survey, Volume 1, Part 2* (Washington, DC: Government Printing Office, 1993), 265-268.

⁴ *ibid*, 263.

⁵ *ibid*, 283.

Chapter 2

The Roots of the Problem

Measuring success . . . best defined as knowing when one is done . . . requires planners to know their enemy and assess whether they are achieving the desired effects.

—Lt Col Robert D. Pollock¹

The term “battle damage assessment” did not even become part of the formal joint lexicon until *after* Desert Storm. The fact that such a critical function has not had a widely accepted name throughout the history of airpower provides some insight into the “BDA problem” itself.² As recently as 1996, a researcher found that there was no consensus about the assessment function within the joint community, among the services, or even within them.³ Indeed, she found widespread disagreement about the meaning of and usage of the term “BDA”. At that time, the military services had only begun to realize, “that what the commander really needs is combat assessment, a broader view of the damage the enemy has suffered which includes BDA as a component.”⁴ Since the problem is so new, perhaps it is understandable that the experts cannot agree on even the fundamentals like the definitions of terms. As long as those differences exist, however, there will be no progress toward solving the real challenges that still confront the military as it wrestles with the “BDA problem.”

Modern warfare has grown increasingly complex, and the process of measuring its progress has struggled to keep pace. As the types of weapons used to wage war have changed, the process of evaluating their effects has too. What began as “bomb damage assessment” to determine the

accuracy with which combat aircraft delivered their munitions (bombs), has expanded in context through battle damage assessment (BDA) as described in Chapter One, to its current form—Combat Assessment (CA). CA is the term used today to describe the process of determining the overall effectiveness of force employment during military operations. BDA is one of the principal subordinate elements of CA but, as the rest of this paper shows in some detail, the two terms are *not* synonymous. So the first element of the “BDA problem” lies in the use (or misuse) of terminology. To begin the process of solving this problem, the general term “assessment problem” will replace “BDA problem” for the remainder of this paper.

The “assessment problem” can be traced to the targeting function in air operations planning. Targeting is a key aspect of the air campaign planning process where intelligence and operations functions coincide. The targeting process may be described in the form of the model, the Targeting Cycle, depicted in Figure 1. See Appendix A for a complete explanation of the Targeting Cycle.

The figure illustrates the six functions of the joint targeting process in the form of a six-step operation. These six functions were adapted from the logical decision making steps of the scientific method and this time-tested approach (but not the current terminology) has long guided the targeting process. Like the scientific method on which it is based, the targeting cycle depends on feedback to guide future iterations of the process.⁵ Thus, the cycle’s “Combat Assessment” step provides the essential feedback mechanism for including the results of air operations as an input to the planning of future actions. Without this step, it is easy for planners to lose sight of the operation’s progress toward achieving the commander’s objectives. This step, known today as “Combat Assessment,” was commonly referred to as “Battle Damage

Assessment” during and immediately after Desert Storm. It was this function that was so roundly criticized in that operation’s aftermath.

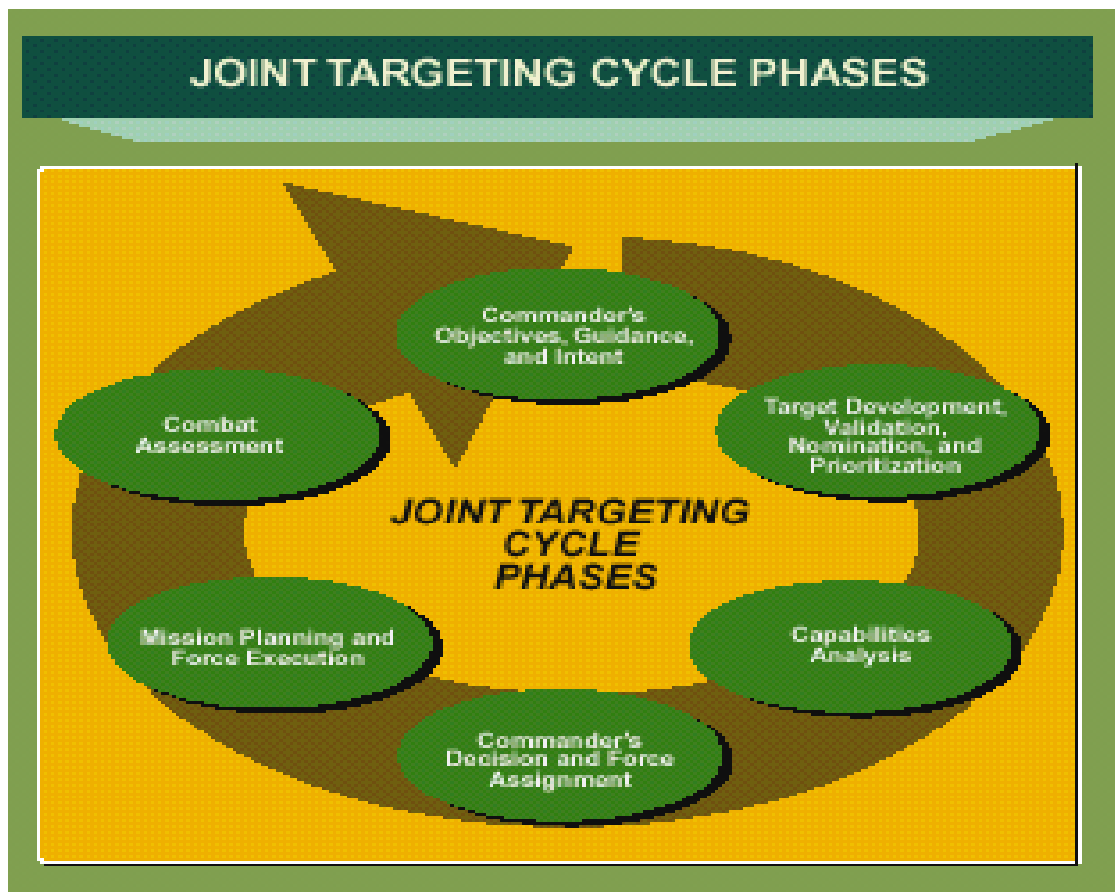


Figure 1 The Targeting Cycle⁶

Barely a year before Iraq’s invasion of Kuwait, a student of the Vietnam War, Mark Clodfelter, foreshadowed a second aspect of the “BDA problem” that would plague the United States’ military action against Iraq six months later. He observed that “the tremendous rush of technology [that ushered in the age of aerial warfare] has not guaranteed military success. What it has done, however is to create a modern vision of airpower that focuses on the lethality of its weaponry rather than on that weaponry’s effectiveness as a political instrument.”⁷ Indeed, the vast majority of the “BDA” collected and reported in Desert Storm was of the tactical variety—focused on “the lethality of its weaponry.” What General Schwarzkopf, needed was a broader

form of CA. What mattered to him were not the results of individual combat sorties, but their combined effects on Iraq's will and ability to continue to occupy Kuwait—"their effectiveness as a political instrument." It is this 'levels of analysis' facet of the "assessment problem"—the need to assess operations at the tactical, operational *and* strategic levels—that provides the real challenge for those charged with performing CA in today's armed forces.

General Schwarzkopf was very critical of his targeting staffs because they were unprepared for the demands of evaluating the progress of a large-scale air operation like Desert Storm's. They were very effective at determining the degree of damage airstrikes inflicted on specific targets, since analysts are trained to recognize "battle damage" in post-strike imagery. This information may have great tactical utility, but it is less useful at the strategic and operational levels. As the overall commander, Schwarzkopf was focused at a different level of analysis. The problem, as he saw it, was that "there were many people who felt they were in a better position to judge battle damage assessment from a pure analysis of things like photography and that sort of thing alone, rather than allowing the theater commander to apply good military judgement to what he was seeing."⁸ What he wanted was what is recognized today as operational and strategic combat assessment.

Military operations since Desert Storm have introduced yet another challenge for assessing the operational and strategic progress of air campaigns—ambiguous objectives in military operations, especially those that fall outside the realm of traditional warfare. Just as different types of targets require different types of information, different operations have different measures of progress, and indicators of "success" can be quite elusive. This ambiguity only exacerbates the level of analysis problem. Operation Deliberate Force, the North Atlantic Treaty Organization's air campaign in the Balkans in the late summer of 1995 provides an example of

this increasingly common, yet more limited use of aerospace power and the problems it can cause. Even one who considered Deliberate Force to be a success found that the “lack of detailed campaign objectives” was at least partly to blame for confining the CA effort to analysis of the results of individual attacks (BDA), rather than a more appropriate evaluation of the operation’s “task-achievement, objective-achievement, and strategy implementation.”⁹ The allies measured what they could, but that did not tell them whether or not they were making progress toward achieving the commander’s objectives.

Since both large-scale air campaigns like Desert Storm’s and more limited actions like Deliberate Force each exhibited difficulties in the process of evaluating operational and strategic results, the obvious question for students of airpower doctrine is “what can be done about it?” What can military forces do to overcome differences in their understanding of the concept of CA and develop meaningful indicators of progress to help them measure success? To clear these hurdles, the military must first improve the doctrinal guidance available to its forces for performing the actual assessment of operations inherent in CA. A firmer doctrinal base would be particularly helpful for assessing operations with more limited objectives like Deliberate Force, “in which political indicators proved critical to assessing bombing effects.”¹⁰ Once armed with this doctrine, military forces can begin to apply it in realistic training and use it as a basis for planning future operations. Without the solid foundation doctrine provides, there is little hope that the military will be able to overcome the obstacles that have blocked progress in the evolution of combat assessment in the past decade.

Notes

¹ Lt Col Robert D. Pollock, “Roads Not Taken: Theoretical Approaches to Operation Deliberate Force,” in *Deliberate Force: A Case Study in Effective Campaign Planning*, ed. Robert C. Owen (Maxwell AFB, AL: Air University Press, 2000), 443.

Notes

² Major Judy Graffis summarizes the evolution of these terms in Maj Judy M. Graffis, “Do the Army and Air Force See Eye to Eye on BDA?” (Leavenworth, KS: School of Advanced Military Studies, December, 1996), 3-7.

³ Maj Judy M. Graffis, “Do the Army and Air Force See Eye to Eye on BDA?” (Leavenworth, KS: School of Advanced Military Studies, December, 1996), 37-39.

⁴ *ibid*, 39

⁵ Joint Publication 3-60, “Joint Doctrine for Targeting,” Preliminary Coordination Draft, 6 June 2000, Chapter I.

⁶ *ibid*, I-8.

⁷ Mark Clodfelter, *The Limits of Airpower* (New York: The Free Press, 1989), 203.

⁸ Quoted in Gulf War Air Power Survey, *Gulf War Air Power Survey, Volume 1, Part 2* (Washington, DC: Government Printing Office, 1993), 265.

⁹ Maj Mark C. McLaughlin, “Combat Assessment: A Commander’s Responsibility.” in *Deliberate Force: A Case Study in Effective Campaign Planning*, ed. Robert C. Owen (Maxwell AFB, AL: Air University Press, 2000), 183.

¹⁰ *ibid*, 186

Chapter 3

Defining Combat Assessment

The beginning of wisdom is calling things by their right names.

—Confucius

Joint doctrine defines Combat Assessment (CA) as “the determination of the overall effectiveness of force employment during military operations.” The joint definition says that “combat assessment is composed of three major components, (a) battle damage assessment, (b) munitions effects assessment, and (c) reattack recommendation.”¹ The ultimate objective of combat assessment is to identify recommendations for the course of future military operations. This body of thought recognizes that the development of assessments of the degree of success attained in operations is one of the most crucial aspects of securing and maintaining the tactical, operational, and strategic advantage.² Joint force planners support the performance of this function using the joint targeting process to assist the Joint Force Commander (JFC) as he makes decisions that affect the course of an evolving conflict. Accordingly, the joint targeting process facilitates coordinated combat assessment and takes advantage of the analytical expertise of both the operations and intelligence staffs. This combination of expertise is essential to provide the JFC a fully developed picture of the degree of success the campaign is achieving and creates the basis for charting future objectives and actions in the conduct of continuing operations. Figure 2 illustrates and explains the components of CA as currently articulated in Joint Doctrine.

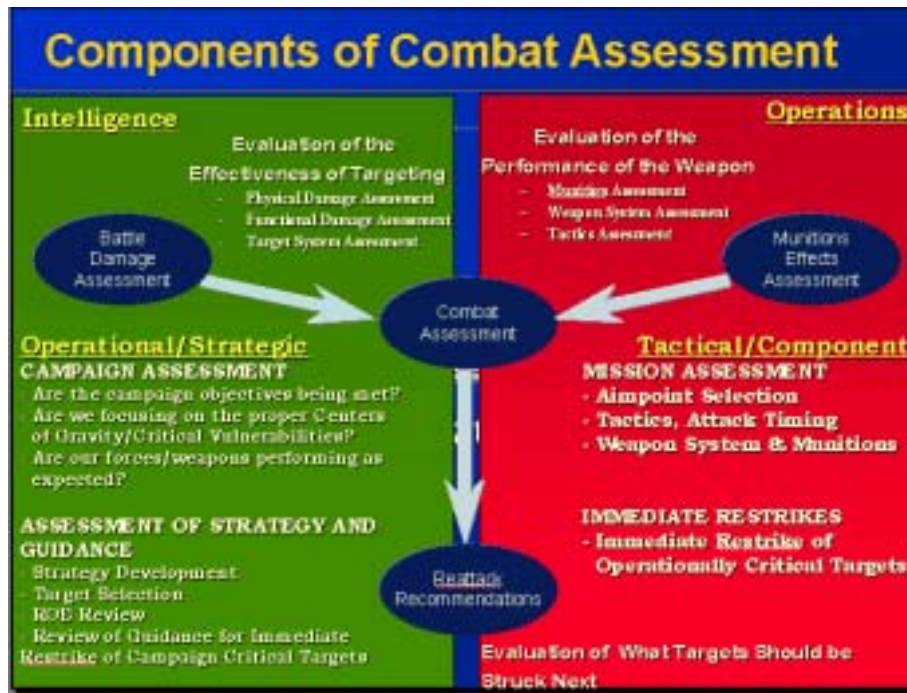


Figure 2 Components of Combat Assessment³

The purpose of CA is to assess the progress of the activities described by the Targeting Cycle and feed the next iteration of the process. In doing this, CA provides the framework within which targeteers and operations planners determine if the objectives of the operation are being met. To make this determination, planning staffs consider three questions in performing their CA. First, “were the commander’s objectives met?” Second, “did our forces perform as expected?” Finally, if the objectives were not met, or if the employed forces did not perform as expected, “what can be done to fix any problem areas?” From the answers to these questions, analysts assess the overall effectiveness of the combat forces and recommend future courses of action (COAs).⁴

In essence, then, Combat Assessment is all about measuring success. It is that ongoing element of the planning process whose objective is “best defined as knowing when one is done.”⁵ The purposes of this phase in the cycle are to determine the degree of success in achieving objectives and to formulate any required follow-up actions, or to indicate readiness to move on to

new tasks on the road to achieving the operation's overall objectives. This final phase both completes and begins the joint targeting process anew by linking the achieved outcomes with stated objectives that began the cycle.⁶

It is important to note that such assessment is necessary at each level of war. At the tactical level, aircrews evaluate their tactics for weapons delivery and commanders assess the unit's ability to apply the right force to achieve the right effect on the right targets. At the operational level, the Joint Forces' Air Component Commander (JFACC) and his staff conduct CA to measure the combined effects of airpower on an enemy to determine the progress toward meeting campaign objectives in mission areas such as Counter Air, or Counter Land. Finally, the Joint Force Commander must determine whether or not operations are contributing to the achievement of his military objectives

According to joint doctrine, there are three components of this effort. The first, Battle Damage Assessment, is responsible for much of the confusion surrounding the "assessment problem." In this construct, BDA is concerned with estimating the damage to a target caused by the application of military force. This is primarily the responsibility of intelligence personnel involved in the air campaign planning process. The second piece of the Combat Assessment puzzle involves operations planners evaluating the weapon system's operational effectiveness through a Munitions Effects Assessment (MEA). The final step is an assessment, derived from the results of BDA and MEA, which drives a decision about future operations. This step is referred to as the Reattack Recommendation (RR), and represents the combined advice of operations and intelligence staffs to the commander about the effectiveness of his forces' efforts. RR "merges the picture of what was done (BDA) with how it was done (MEA) and compares the

result with predetermined measures of effectiveness that were developed at the start of the joint targeting process.”⁷

Regrettably, the use of the term “Reattack Recommendation” in joint doctrine is a substantial part of the “assessment problem” as it exists today. The confusion resulting from the use (or misuse) of this term is the most visible symptom of the “level of analysis problem” that lies at its core. For most, the term implicitly suggests that the development and analysis of BDA in CA is designed primarily for tactical application. At that level, the assessment is principally concerned with whether or not the requisite damage was inflicted on the target. The logical question that follows is “should we attack that target again?” In this case, the term “Reattack Recommendation” is appropriate, but it very poorly describes the objectives of CA at the operational and tactical levels. The JFACC is more interested in the effect of operations on broad target systems at the operational level than he is with reattacking specific targets. Similarly, the JFC wants to know, as General Scharzkopf did, when his forces meet certain objectives that allow him to shift his effort in another direction. Thus, “Reattack Recommendation” is arguably a misnomer, since it suggests a more tactical focus than the broader evaluation of progress at the operational and strategic levels Joint Publication 3-60 implies. As the next section demonstrates, this inconsistency proves to be a source of difficulty in Service Doctrine as well.

Combat Assessment in Service Doctrine

One would expect the doctrine of the individual services to mirror current joint doctrine in their treatment of Combat Assessment. Unfortunately, however, several differences exist and can prove to be formidable obstacles to finding a common solution to the problems of assessing the effectiveness of air operations. While each of the military services recognizes the important

role combat assessment plays in the targeting process, the differences among them hinder the formation of a consensus about joint doctrine that has precluded the publication of the draft joint publications referenced so far. Likewise, a certain lack of precision in the use of terms also plagues the service writings, making a common understanding even more difficult to achieve. This section examines writings from each of the military services to gain a clearer understanding of how each deals with the assessment problem.

Navy Doctrine

According to U.S. Navy Doctrine, one of the five primary purposes of Naval intelligence is to “support Combat Assessment.” Specifically, *Navy Doctrine Publication 2 (NDP 2)* states that

Naval intelligence is essential in developing combat assessments that can help the commander decide whether to redirect friendly forces or end operations. Combat assessment is the procedure by which the commander weighs the effectiveness of military operations by considering battle damage assessment, munitions effectiveness, and reattack recommendations. Analysis of the enemy’s reaction to friendly operations gives us insights into his morale, materiel status, and ability to continue hostilities.⁸

Despite this agreement with joint doctrine on the surface, a deeper look reveals that “Battle Damage Assessment” is also included as one of seven “Functions of Intelligence” and *NDP 2* further distinguishes it from another function—“Targeting”.⁹ Elsewhere, *NDP 2*’s discussion of the BDA function explicitly places it under the CA umbrella along with Munitions Effects Assessment and Reattack Recommendation. Can both be possible? This convoluted relationship of intelligence, targeting, and combat assessment suggested in Navy doctrine helps to further explain some of the difficulty the community has experienced in coming to grips with this issue.

Navy doctrine is also somewhat confusing when it comes to the difference between CA and BDA. Once again, the specifics of *NDP 2* appear to blur the distinction between the two terms:

The commander must consider BDA throughout all phases of mission planning and execution, for all levels of warfare. At the tactical level, BDA supports reattack decisions; at the operational level, BDA determines the extent of achievement of operations and campaign objectives; at the strategic level, BDA provides key information for senior decisionmakers with regard to campaign progress and attainment of national security objectives.¹⁰ (NDP 2, 36)

If one replaces “BDA” with “CA” in the excerpt above, it becomes an excellent statement of the pervasiveness of the need for assessment in the conduct of joint military operations and coincides with Joint Doctrine. As it is written, however, it serves as another example of the imprecision of language in current doctrine that impedes the performance of successful combat planning and execution.

These excerpts from Navy doctrine reveal the same bias seen in joint doctrine about the level at which Combat Assessment is performed. Here too, the implication is that the development and analysis of BDA in CA is designed primarily for tactical application. Given that the Navy’s air operations usually have a fairly narrow scope, this emphasis is understandable, but such a focus very poorly describes the objectives of CA at the operational and tactical levels. A naval commander serving as the JFACC would have a difficult time evaluating his air campaign using the tools Navy doctrine provides. So how do the other Services fare on these counts?

Army and Marine Corps Doctrine

United States Army doctrine takes a different approach to the targeting process than Joint and Navy doctrine addressed so far. *Field Manual 6-20-10: Tactics, Techniques, and Procedures for the Targeting Process* describes the Decide-Detect-Deliver-Assess (D³A) targeting methodology used by that Service as well as the U.S. Marine Corps. It says, “targeting is a combination of intelligence functions, planning, battle command, weaponeering, operational execution, and combat assessment. The decide, detect, deliver, and assess methodology

facilitates the attack of the right target with the right asset at the right time.”¹¹ This definition has a decidedly tactical focus, much like the others discussed so far. While the terminology may be different, *FM 6-20-10* does attempt to reconcile the two views. It states that the “Assess” step in this process directly correlates with the “Combat Assessment” step in the joint targeting cycle. Figure 2 from *FM 6-20-10* illustrates this relationship.

TARGETING PROCESS		
JOINT	ARMY/USMC	AIR FORCE/NAVY
JFC GUIDANCE AND PRIORITIES	DECIDE	OBJECTIVES AND GUIDANCE
COMPONENT REQUIREMENTS		
REQUIREMENT PRIORITIZATION	DETECT	TARGET DEVELOPMENT
TARGET ACQUISITION		WEAPONNEERING
TARGET ATTACK	DELIVER	FORCE APPLICATION PLANNING
ASSESSMENT		EXECUTION PLANNING
JFC GUIDANCE	ASSESS	COMBAT ASSESSMENT

Figure 3 Comparative View of the Targeting Process¹²

The figure shows that, at least from the land forces’ perspective, “Assess” in D³A is the same as “CA” as defined in Joint Doctrine. But the focus is clearly on the tactical, rather than operational or strategic levels of warfare. Despite the obvious differences, *FM 6-20-10* makes the assertion that the two approaches are doctrinally equal. In fact, professional journals contain examples of efforts to reconcile the two approaches. One such article, billed as an effort to “de-mystify joint targeting” concluded “we must not get bogged down in service parochialisms over terminology for processes supporting joint operations. [Rather,] we must use clear, accurate combat terms understood by all on the ‘purple’ battlefield.”¹³ The author’s advice is sound, and the armed forces would do well to heed his implicit warning: Strictly limiting a function to one level of war

while ignoring its application at the others risks not just straying into boggy ground, but deliberately entering a doctrinal minefield.

Air Force Doctrine

Given what joint doctrine and that of the other Services says about Combat Assessment, how does Air Force doctrine compare? The only current doctrine publication that addresses CA in detail is *Air Force Doctrine Document 2-5-2 (AFDD 2-5-2), Intelligence, Surveillance, and Reconnaissance Operations*. Like the Navy's *NDP 2*, Air Force doctrine distinguishes between "Combat Assessment" and "Targeting" in describing intelligence capabilities and products.¹⁴ In introducing the concept of CA, *AFDD 2-5-2* says:

Combat assessment (CA) evaluates combat operations effectiveness in achieving command objectives. CA includes BDA, munitions effectiveness assessment (MEA), and mission assessments (MA). BDA is a timely and accurate estimate of damage or effect resulting from the application of military force against a predetermined objective. (How much damage did the bomb do?) MEA analyzes the effectiveness of the munition's damage mechanisms and delivery parameters. (Did the bomb do what it was supposed to do?) Planners use this information to determine the right munition for the right target. MA evaluates the effectiveness of a tasked or apportioned mission on the adversary's warfighting and sustaining capabilities. (Did this mission achieve the effect we wanted it to achieve?) Together, these three assessments provide information on the success or failure of military operation and determine the need for additional operations or modifications in planning.¹⁵

It is important to note that the Air Force's view agrees with other doctrine regarding the intent and general concept of CA, but varies when it comes to the composition of CA. Instead of the familiar $CA = BDA + MEA + RR$ equation from Joint and Navy Doctrine, the Air Force introduces a new formula: $CA = BDA + MEA + MA$. In this construct, "Mission Assessment" replaces "Reattack Recommendation." The two ideas are very similar, but the Air Force definition is geared more toward assessing success in a particular mission area, such as Interdiction, Close Air Support, etc., rather than determining whether or not a particular target should be reattacked.

This critical difference in focus—on the operational rather than tactical level—has serious consequences for the doctrinal debate examined in the next chapter.

For a more detailed examination of the Air Force view, it is helpful to look at the *USAF Intelligence Targeting Guide* (AFP 14-210), the Service’s tactics, techniques, and procedures for targeting. While not doctrine *per se*, the *Guide* is a detailed statement of the Service’s views, and it contains a chapter dealing with Combat Assessment. In those pages lies a discussion of CA that sounds very much like the broadly mission-focused evaluation described but misnamed in joint doctrine. It also recognizes the preeminent role of BDA as CA’s “most visible product” and the one with “the broadest audience.”¹⁶ Beyond identifying this problem, however, *AFP 14-210* fails to address the problems this tactical, BDA-centric view often causes at the other levels of war. Unfortunately for the Air Force, this failure to adequately address these issues of the proper use of terminology do not give it a strong position from which to argue its case in the ongoing debate.

This doctrinal ambiguity affected Operation Deliberate Force, much as it did Desert Storm. Because of the very limited nature of that operation, the senior commanders were able to make strategic and operational level assessments based on the physical damage assessments produced for BDA.¹⁷ Despite this success, however, neither the United States nor the NATO Alliance under whose aegis the operation was conducted, had formal doctrinal guidance or processes for combat assessment at the time of that conflict. It was only because the small scope of Deliberate Force air operations allowed the commander to be personally involved in making assessments, that CA worked in that operation. Even so, “the scope and scale of the air operation during its first few days overwhelmed the Combined Air Operations Center (CAOC) BDA cell.”¹⁸ Deliberate Force also reinforced the point that commanders, not intelligence analysts or

operations planners, are ultimately responsible for CA. In fact, the Director of the CAOC's air operations cell pointed out that "only commanders held accountable/responsible for execution were fully aware of all considerations and implications, and in proper position to judge the extent to which attacks achieved the desired results."¹⁹

Consistent with other, non-Air Force doctrine, the *Guide* also highlights this sentiment that "CA belongs to the warfighter."²⁰ This recognition clearly establishes that force commanders are ultimately responsible for CA at the appropriate level, with the Joint Force Commander having responsibility at the strategic level for measuring results and translating that progress into further action. Similarly, the JFACC must assess the progress of the air campaign at the operational level, and individual wing and squadron commanders must evaluate their forces' tactical contribution to the effort. At this tactical level, a commander's combat assessment would include the decision to reattack individual targets when necessary

The *USAF Intelligence Targeting Guide* also makes the point that "CA must be done jointly by targeteers, operators, engineers, and intelligence analysts. . .[and that]. . .it should come from all sources and be integrated into the battle management process."²¹ But in evaluating Air Force Doctrine regarding CA, it becomes clear that the *Guide* tends to focus on the problem from an intelligence perspective, and not on the big picture needed for complete understanding. The pamphlet contains a thorough discussion of the role of intelligence in providing *support* to the process, but not a comprehensive treatment of how commanders and their planning staffs should assess the reports they receive from intelligence and other sources to make decisions about the conduct of the campaign. The warfighters' ownership of CA, therefore, has serious ramifications for how it is performed and whether or not it will be effective. While *AFP 14-210* does not explain how all these players must interact to perform Combat Assessment, it does contain the

broad outlines of an effective process. By not expanding on this outline, however, the Guide does little to clear away the obstacles to measuring the success of an air campaign.

Equipped now with this understanding of how the military services view and think about Combat Assessment, the quest for solutions may begin. The goal is to drive away the clouds that obscure a common understanding of the meaning of CA and hinder its effective practice. The first step toward that objective must be to resolve the doctrinal debate so all the players in the process can begin to work toward a common end.

Notes

¹ The Joint Doctrine Encyclopedia, Joint Pub 3-60, “Joint Doctrine for Targeting” (Draft) and Joint Pub 2-01.1, “Joint Tactics, Techniques, and Procedures for Joint Targeting” (Draft) all share this definition.

² Joint Publication 3-60, “Joint Doctrine for Targeting,” Preliminary Coordination Draft, 6 June 2000, II-9.

³ Joint Pub 2-01.1, “Joint Tactics, Techniques, and Procedures for Joint Targeting,” (Draft), Chapter VIII.

⁴ *ibid.*

⁵ Lt Col Robert D. Pollock, “Roads Not Taken: Theoretical Approaches to Operation Deliberate Force,” in *Deliberate Force: A Case Study in Effective Campaign Planning*, ed. Robert C. Owen (Maxwell AFB, AL: Air University Press, 2000), 443.

⁶ Joint Publication 3-60, “Joint Doctrine for Targeting,” Preliminary Coordination Draft, 6 June 2000, reiterates this view of CA.

⁷ Joint Publication 3-60, “Joint Doctrine for Targeting,” Preliminary Coordination Draft, 6 June 2000, II-10.

⁸ Naval Doctrine Publication (NDP) 2, *Naval Intelligence*, 1995 10.

⁹ *ibid.*, 34-36.

¹⁰ *ibid.*, 36.

¹¹ Field Manual (FM) 6-20-10, Marine Corps Reference Publication (MCRP) 3-1.6.14, *Tactics, Techniques, and Procedures for the Targeting Process*, 8 May 1996.

¹² *ibid.*, Chapter 3.

¹³ Robert F. Kluba, “De-Mystifying Joint Targeting,” *Field Artillery*, January – February 1996, 7.

¹⁴ Air Force Doctrine Document (AFDD) 2-5.2, *Intelligence, Surveillance and Reconnaissance Operations*, 21 April 1999, Chapter 3.

¹⁵ *ibid.*, 44-45.

¹⁶ Air Force Pamphlet (AFP) 14-210, *USAF Intelligence Targeting Guide*, 1 February 1998, 69.

Notes

¹⁷ Maj Mark C. McLaughlin, “Combat Assessment: A Commander’s Responsibility.” in *Deliberate Force: A Case Study in Effective Campaign Planning*, ed. Robert C. Owen (Maxwell AFB, AL: Air University Press, 2000), 185.

¹⁸ *ibid*, 182.

¹⁹ Col Daniel Zoerb, quoted in Maj Mark C. McLaughlin, “Combat Assessment: A Commander’s Responsibility.” in *Deliberate Force: A Case Study in Effective Campaign Planning*, ed. Robert C. Owen (Maxwell AFB, AL: Air University Press, 2000), 184.

²⁰ *ibid*.

²¹ *ibid*, 69-70.

Chapter 4

The Current Doctrinal Debate

The Combat Assessment phase of the targeting cycle has been improved but will require greater effort in the future. Nothing focuses the American military establishment, to include military intelligence, on fixing a problem like failure, especially when it is pointed out by the CINC, DoD officials, and the Congress.

—David S. Caulfield, DIA¹

As this paper has shown, air combat operations, at least since Desert Storm, have suffered from deficiencies in the performance of combat assessment. But have these “failures” really focused the community to fix the problem and come to some agreement on a doctrinal approach to CA? Some would argue they have. In his analysis of “what’s broke [*sic*]” in joint targeting, a previous researcher found that “although targeting techniques differ among the various service doctrines . . . it bears mentioning that despite the divergence in packaging, service doctrine appears to converge in rational content.”² As the previous chapter demonstrated, there is considerable merit in this observation, since a close reading reveals that there are many more similarities than differences among the services. Unfortunately, with the passing of time since Desert Storm, the American military establishment seems to have lost its focus. The problem today is that the Services tend to put their own views ahead of a search for a common solution.

But is what we have among the Services a simple “failure to communicate,”³ or do real doctrinal differences exist? The review process currently underway prerequisite to the publication of *Joint Publication 3-60, Joint Doctrine for Joint Targeting*, offers an opportunity to

analyze the differences in opinion about the state of doctrine concerning combat assessment and assess their significance. Since this doctrine document will promulgate the Defense Department's authoritative guidance regarding targeting and its constituent parts, the drafting, reviewing, and coordinating process gives the services a forum for expressing their opinions about the subject prior to its formal publication by the Chairman of the Joint Chiefs of Staff. The joint doctrine review process has several stages for comments from various levels of the service, theater, and joint staffs. Therefore, the comments they provide with respect to the draft document's treatment of Combat Assessment should provide a fairly accurate gauge of the state of thinking about this subject. These comments might also offer some insight into any emerging consensus the dialogue over the document has fostered.

The method used here to analyze the current state of the debate is a content analysis of the comments submitted by the service, theater, and joint staffs in response to the Preliminary Coordination draft of Joint Publication 3-60 (Joint Pub 3-60), dated 6 June 2000. It combines a rudimentary quantitative analysis with a more thorough qualitative analysis of the specific comments offered by each of the respondents. The former provides an indication of the scope of any controversy regarding the treatment of combat assessment in *Joint Doctrine for Targeting*. The latter will provide a more detailed look at the sources of any disagreements the initial analysis reveals. This analysis is based solely on the author's interpretation of a compilation of the comments submitted to the Joint Staff in response to this particular draft of the document, and on additional information some of the reviewers provided to clarify their positions.

The major benefit of this method is that it allows one to evaluate the various positions in the words of their proponents. An added benefit is that it considers not only the ideas developed within the military services, but also allows for an examination of the views offered by members

of the staffs at the various Unified Command Headquarters and Joint Staff. In this way it may be possible to determine if the spreading acculturation advanced by the joint environment could be a remedy for the “parochialisms” that can stand in the way of developing a common appreciation for, and approach to, performing a difficult task like combat assessment.

Determining Where the Services Stand

Overall, there were 543 comments on the draft of Joint Pub 3-60, a document that is only 131 pages long, including prefatory material, six appendices (accounting for 53 pages), a fifteen page Glossary (in two parts) and several obligatory “pages intentionally left blank.” Of these comments, just over nine percent were “Critical”—the category reserved for the most serious disagreements with the draft.⁴ Furthermore, only 34% were “Major,” leaving almost 57% in the “Substantive” and “Administrative” categories. Of those comments, only eighteen use the terms “Combat Assessment” or “CA.” The term “Combat Assessment” and its variants only appear in the summary of comments a total of 27 times. Likewise, “BDA” is mentioned just twenty times, and in each case its use is consistent with the accepted definition—that it is a subordinate process under the rubric of CA. For simplicity’s sake, this analysis will ignore the references to BDA in order to focus on the comments concerning Combat Assessment.⁵

Just over three percent of the comments submitted to the Joint Staff in response to its draft of Joint Pub 3-60 refer to “Combat Assessment.” Statistically, one would expect one-sixth (almost seventeen percent) of the comments about a six-part process to pertain to any one of its parts if there were any serious controversy surrounding it. (In the document itself, for example, 22% of the section defining the six parts of the targeting cycle is dedicated to CA.) From this small proportion of comments alone, it appears the differences are not very great. When one considers the substance of most of these comments, their significance decreases even further.

Six of the remarks only mention combat assessment in passing, while referring to other issues like Information Operations, non-lethal attacks, annexes to plans, and the obsolescence of the term “MOOTW.”⁶ Two others include the term only as the name of the section of the draft after which they recommend content be deleted.⁷ Another input simply suggests an alternative structure to make the “sentence read better.”⁸

When it comes to the remaining nine comments relevant to this analysis, only two issues remain. The first is an effort to clarify how the staffs, cells, and boards at various levels support the JFC in order to facilitate his performance of combat assessment.⁹ All five of the comments on this are in essential agreement, with representatives from the Army, Navy, United States European Command, and Joint Staff Intelligence Directorate seeking to ensure doctrine reflects the need for subordinate organizations to work cooperatively to support the JFC, who is the only entity who can make authoritative decisions about the progress of the combat operations for which he is responsible. Similarly, another comment seeks to drive home the point that “the joint targeting process, *and more specifically the combat assessment process*, does not end when hostilities cease” [emphasis added by the reviewer].¹⁰ Arguably, these opinions demonstrate the continued maturation of a concept that has only existed within the targeting community for a half-decade or so. More importantly, however, they implicitly recognize that operational and strategic level CA is vital to the success of joint operations.

The only significant opposition to adoption of the document, then, seems to come from the remaining three inputs from the Air Force. In the first place, the service objects to what the reviewer calls the “improper use of the term [course of action] COA.”¹¹ To the student of joint doctrine, Joint Pub 3-60’s use of “COA” suggests a broad, operational level perspective that is wholly appropriate for a discussion of Combat Assessment. Therefore, in the context in which it

is used, “course of action” is a reasonable term, just one not familiar to most in the Air Force. The problem runs deeper than that, however, since the motivation for these comments lies in the difference between the Air Force’s formulation of CA: (CA=BDA+MEA+MA); and the structure everyone else recognizes: (CA=BDA+MEA+RR).

When asked to clarify the Air Force position, one of the reviewers provided the following rationale for arguing against inclusion of “Reattack Recommendation” and for substituting “Mission Assessment” in its place:

Mission assessment is current Air Force policy (AF Pamphlet 14-210) which has been adopted by the Navy Intelligence training facilities. It is one of three components of Combat Assessment. Reattack recommendation does not cover the need to assess a mission given to a supported commander and necessary for the Apportionment Decision of the JTF Commander. This function must be included in Combat Assessment. As an example, the strategic attack mission assessment would normally be included in the air component’s combat assessment. Close air support mission assessment would be part of the ground component’s combat assessment.

Restrike recommendation is a conclusion, as opposed to assessment, drawn in all phases of combat assessment from the pilot’s release until later studies of the target system. Restrike recommendation does not pass the test as a substitute for mission assessment.¹²

The reviewer further suggests the following text replace the discussion of the Reattack Recommendation sub-portion of Combat Assessment in Joint Pub 3-60:

“Mission Assessment. Mission assessment addresses the effectiveness of overall strike operations in light of the command objectives and in particular, assigned missions. It gives the commander a broad perspective of the total effect of a mission’s impact against the enemy and on goal attainment. While battle damage and munitions effectiveness assessments address lethal force employment against targets and weapons, mission assessment evaluates our total impact toward mission objectives.

A. The cumulative damage to the targets does not represent the total effectiveness of the operations because it does not account for the intangible effects on enemy activities, for the effectiveness of non-lethal force employment, or for alternative courses of action. There are also many other factors to consider; the enemy rate of supply and resource consumption, enemy mobility, use of reserves, availability of repair materials, reconstitution or recuperation time and

costs, and the status of defenses. Additionally, mission assessment examines the effectiveness of tactical operations considerations such as tactics, penetration aids, and enemy and friendly countermeasures.

B. Mission assessment attempts to answer the questions outlined below. Answers to these questions help determine the effectiveness of the operations to meet mission objectives:

- (1) Are combat operations achieving mission objectives?
- (2) Do objectives require modification?
- (3) How effective were strikes in terms of impacting the enemy's war fighting and/or war sustaining capabilities?
- (4) What specific changes in combat operations would improve friendly efforts to degrade the enemy's will and capability to wage war?
- (5) Does a particular enemy target system require more, or less, emphasis in future combat operations?
- (6) Were there any unanticipated operational limitations?
- (7) Were there any unintended consequences of the operation; that is, did strikes achieve some bonus damage or inflict undesirable collateral damage?¹³

This explanation makes it clear that the Air Force agrees with the spirit of Combat Assessment doctrine as embodied in Joint Pub 3-60, but not the letter of it. The problem is the same one that has blocked publication of joint doctrine for targeting (and thus combat assessment) for a decade or more—there is no unified position on what must be assessed when it comes to combat operations. This ambiguity leaves room for interpretation which, in turn, can breed disagreement, friction, and inefficiency.

What's Left?

There is at least one major deficiency in combat assessment doctrine that has not been discussed in detail but is relevant here. Current doctrine is still unable to address the age-old problem of how to connect the actual physical and functional damage inflicted on an adversary by combat operations to their desired outcomes.¹⁴ Joint Pub 3-60 does not address this problem, but for air operations at least, this linkage is crucial. If the current trend toward increased reliance on the application of airpower is to continue, this void must be filled to enable

commanders to measure the effectiveness of the operations they direct. When airpower is used alone in pursuit of rather limited goals as was the case in Deliberate Force, the commander and his planners must have some mechanism for making judgements about the progress of their efforts. Without an objective way to measure the effectiveness of the application of force currently being applied, military planners can be at the mercy of their intended target. In Operation Allied Force, for example, there was no way to determine if air strikes were having any real impact and contributing to the objective of affecting a Serbian withdrawal from Kosovo. Since allied forces were unable to link the effects of their operations to the accomplishment of the political objective, there was no way to recommend a change in the course of action. Similarly, there is no way to determine if the campaign's 78 day length was the result of allied ineffectiveness or Slobodan Milosevic's obstinance.

Notes

¹ David S. Caulfield, "National-Level Intelligence Support to Targeting," (Newport, RI: Naval War College, May 1997), 22.

² Major Matt McKeon, "Joint Targeting: What's Still Broke?" (Maxwell AFB, AL: School of Advanced Airpower Studies, June 1999), 5.

³ Strother Martin to Paul Newman in *Cool Hand Luke*

⁴ The complete breakdown of comments is:

Critical	50
Major	185
Substantive	276
<u>Administrative</u>	<u>32</u>
TOTAL	543

⁵ See Appendix B for an excerpt from the compilation containing the specific comments that mention CA.

⁶ See Comments 0-12, 2-42, 2-59, 5-1, 5-2, and C-16 in Appendix B.

⁷ See Comments 2-53 and 2-55 in Appendix B.

⁸ See final Comment in Appendix B.

⁹ See Comments 3-61, 3-68, 3-105, the Navy General Substantive Comment, and J-2's Administrative Comment in Appendix B.

¹⁰ See Comment 2-57 in Appendix B.

¹¹ See Comments 2-44 and 2-47 in Appendix B.

¹² Captain R. C. Schroeder, Jr., Headquarters, Air Combat Command Targeting and Geospatial Information Flight, memorandum to Headquarters, Air Combat Command Plans and

Notes

Doctrine Division, subject: Comments for JP 3-60 Joint Doctrine for Joint Targeting, 8 December 2000.

¹³ *ibid*

¹⁴ Major Mark C. McLaughlin, “Combat Assessment: A Commander’s Responsibility.” in *Deliberate Force: A Case Study in Effective Campaign Planning*, ed. Robert C. Owen (Maxwell AFB, AL: Air University Press, 2000), 186.

Chapter 5

Resolving the “Assessment Problem”

The merit of an action lies in finishing it to the end.

—Genghis Khan

Air combat operations offer considerable promise for helping to achieve decisive results in the modern battlespace. But in order to realize this potential fully, commanders and their staffs must be capable of evaluating the effects of their efforts and their contribution toward achieving both political and military objectives. In short, they must have a set of metrics that will help them “finish it to the end.” Clearly this demands a view of combat assessment that addresses results of military operations at all three levels of war. Current joint doctrine does this, although not in the most precise terms. This examination has shown that there is little real disagreement among the services about the purpose and importance of combat assessment. However, the fervor with which the parties cling to their own myopic views when it comes to the few remaining differences is unfortunate.

Based on the analysis presented here, the shortest path toward resolution of the doctrinal debate is for the Air Force to drop its opposition to publication of Joint Pub 3-60 over the construct of CA that includes RR. The evidence shows that as it is currently written, the draft document provides sufficient latitude for each service to perform CA at the appropriate level to meet its needs. This includes provisions for combat assessors on the JFACC’s staff to measure the progress of air operations in the pursuit of operational goals and for the JFC to perform his

strategic assessments. These higher level assessments are in addition to the more tactically-focused analysis required in order to satisfy the needs of most other commanders. Once Joint Pub 3-60 is approved, the Air Force can then take the lead in educating the other services about the importance of the broader levels of assessment required for guiding today's air campaigns. The joint doctrine review process provides future opportunities to refine the definition and change terms as necessary. For now, however, half a loaf is better than none at all.

This process has, in fact, already begun. A Joint Working Group met from 30 January to 1 February 2001 to reconcile all of the comments on the Preliminary Coordination draft of Joint Pub 3-60. The Working Group was able to resolve the disagreements on the draft document to the satisfaction of all of the participants, including the Air Force. The Joint Staff has updated the draft publication based upon the Working Group's discussions and, in early March, distributed the final coordination draft to the Services and Unified Commands for comment. Assuming this ultimate round of coordination does not reveal any remaining disagreements, the Chairman of the Joint Chiefs of Staff should approve Joint Pub 3-60 sometime this summer.¹ This will mark the first time since Desert Storm that the Department of Defense has authoritative guidance for combat assessment.

Fortunately, the obstacles to consensus that hampered progress toward adopting joint doctrine for combat assessment have not extended to all areas of the military services. In their intelligence training facilities, both the Air Force and the Navy currently teach that combat assessment is necessary at all levels of war. The figure below summarizes that aspect of the combat assessment training intelligence specialists receive in the targeting courses at those schools:

Combat Assessment Covers All Levels

Level of Warfare	Assessment Criteria	Assessment Types
Campaign – Strategic	National & Theater Objectives/Guidance	Campaign CA Mission Assessments
Components – Operational	Missions, Objectives, & Measures of Merit	Component CA Mission Assessments Battle Damage Assessment Munitions Effectiveness
Combat Units – Tactical	Missions, Objectives, & Tasking Orders	Unit CA Mission Assessment Munitions Effectiveness Battle Damage Assessment

Figure 4 Levels of Combat Assessment²

In the joint arena, the Joint Targeting School propagates a similar concept, although not to the same level of detail.³ The joint course addresses the need for comprehensive CA to support decision makers at all levels of war, but its focus, like that of the Air Force and Navy schools, is more on how to do CA from an intelligence standpoint than on how the assessments are used by decision makers.

Areas for Further Research

With the imminent resolution of the doctrinal debate over combat assessment, the targeting and assessment communities can shift their focus to another, perhaps more serious factor that complicates the “assessment problem.” Much of the confusion over CA stems from the fact that, like the targeting process of which it is a part, the assessment function is located at the nexus of operations and intelligence—of planning and execution. Assessing combat effectiveness, and more particularly the decision-making that results from that assessment process, is a function of command, and thus operations. However, such assessment is not possible without considerable

input from intelligence. The various intelligence schools teach combat assessment from that particular perspective, but there is no similar training and education program for the operations planners and commanders on whom it depends. This is a serious shortfall when one considers that “CA belongs to the warfighter.”

As Joint Pub 2-01.1 points out, “targeting [and all of its parts, including combat assessment] is a blend of disciplines.”⁴ It is the bridge between operations and intelligence, and relies upon the effective fusion of information provided by all intelligence disciplines. But targeting also demands the full participation of commanders and their operations staffs. As previously pointed out, combat assessment belongs to the warfighter. Commanders at all levels (joint force, air component, wing and squadron) are ultimately responsible for determining whether their operations are having the desired effect. This draft publication, which outlines the joint tactics, techniques, and procedures for intelligence support to targeting, demonstrates that the intelligence community has already learned the difficult lesson that the pace of modern warfare is dictating an environment where all disciplines must work together in a timely fashion to satisfy the JFC’s needs⁵. The document does not explain how this can be accomplished, but recognizing the problem is crucial if the military is to make the “giant leap” to effective, coordinated combat assessment. It is not clear however, if the operations world has made even “one small step” toward that end.

Conclusion

As long as combat assessment remains poorly defined by doctrine and exists in the sensitive area where the operations and intelligence communities collide, both communities will continue to overlook it. And even when they do discuss the function, differing perspectives, priorities, and phraseologies prevent proper perception of the problem. New joint doctrine, in the form of

Joint Pub 3-60, will go a long way toward clarifying what is meant by terms like “combat assessment” and “BDA”. It will also provide the foundation on which the joint community can build better processes for CA. In the end, however, better education and training are essential for improving the combat assessment available to support military commanders. The warning alarms began to sound long ago, but they have been lost in the din of the doctrinal debate. Even before Desert Storm, following Exercise Internal Look in July, 1990, intelligence analysts at United States Central Command, “attempted to bring to the attention of operational planners the inadequacies in the bomb damage assessment process as it existed in mid-1990.”⁶ Now, more than ten years after Internal Look first revealed that there was a “BDA problem,” a solution is in sight. Authoritative joint doctrine will firmly codify what the schools are already teaching about combat assessment and strengthen the growing common understanding that the Joint environment has fostered. It will also force the dissenters in the services to redirect their efforts in a more constructive direction.

Notes

¹ Major Dale Bruner, Air Force Doctrine Center, Joint Doctrine Detachment, interviewed by author.

² Air Force Pamphlet (AFP) 14-210, *USAF Intelligence Targeting Guide*, 1 February 1998, 70. Much of AFP 14-210 is reproduced in the “Combat Targeting Guide” used for instructional purposes in the Air Force’s Combat Targeting Course taught by the 17th Training Wing, Goodfellow AFB, TX.

³ Joint Targeting School, “Combat Assessment” (U), course material. (Secret) Information referenced is unclassified.

⁴ Joint Publication 2-01.1, “Joint Tactics, Techniques, and Procedures (JTTP) for Intelligence Support to Targeting,” Draft, 18 November 2000, para 4d.

⁵ *ibid.*

⁶ Gulf War Air Power Survey, *Gulf War Air Power Survey, Volume 1, Part 1* (Washington, DC: Government Printing Office, 1993), 225.

Appendix A

The Targeting Cycle

Excerpt from Preliminary Coordination Draft of Joint Pub 3-60
Chapter II **The Joint Targeting Process**

1. The Joint Targeting Process 10
Model 11
 12
The joint targeting process model 13
translates the six functions of the joint 14
targeting process into a six-phase 15
method. As previously discussed, these 16
 six functions were adapted from the 17
 logical decision making of the scientific 18
 method. The resulting six-phase method, 19
 commonly referred to as the joint 20
 targeting cycle, preserves the distinct 21
 qualities of each function in its 22
 corresponding phase in the cycle. Figure 23
 II-1 is a graphical depiction of the six 24
 phases of this cycle and their interaction. 25
 26
 The six fundamental functions of 27
 targeting, as discussed in Chapter I, 28
Fundamentals of Targeting, find their 29
 expression within the six phases of the 30
 joint targeting process as follows: 31
 32
a. Phase 1 — Commander’s 33
Objectives, Guidance, and Intent 34
 35
☐ The commander’s objectives elicit 36
 desired end states for the conduct of 37
 military actions, while the guidance 38
 provided with the objectives 39
 stipulates particular conditions 40
 related to the execution of operations 41
 (e.g., limitations on collateral 42
 damage). Taken together, the 43
 objectives and guidance embody the 44
 commander’s intent for military 45
 operations, and their scope can range 46
 from very near term tactical situations 47
 to far-reaching strategic campaigns in 48
 the geopolitical arena. The focus of 49
 the commander’s intent is always to 50
 create a change in the enemy’s 51
 behavior that turns both the tactical 52
 situation and, ultimately, the strategic 53
 outcomes to our advantage. The 54
 conditions that establish our strategic 55

advantage are defined by our national 56
 security strategy, made relevant to the 57
 particular situation by amplifying 58
 direction from the National 59
 Command Authorities (NCA), and 60
 subsequently expressed in our 61
 national military objectives. 62
 63
☐ The commander’s objectives, 64
 guidance, and intent are the most 65
 important phase in the joint targeting 66
 process, because they encapsulate all 67
 the higher national-level guidance in 68
 a set of outcomes relevant to the 69
 present warfighting situation and set 70
 the course for all that follows. 71
 However, National Security Strategy, 72
 National Military Objectives, NCA 73
 direction, and, in most instances, 74
 even the JFC’s objectives, guidance, 75
 and intent express desired end states 76
 for the conclusion of hostilities that 77
 are too vast and complex to be 78
 achieved by a single event or effort. 79
☐ The first activity of the joint targeting 80
 process at this phase in the cycle is to 81
 translate strategy to discrete tasks, 82
 each logically related directly to the 83
 overall desired outcome. Following 84
 this initial breakdown, it is then 85
 necessary to further break these 86
 supporting tasks into elements of 87
 manageable size, where each element 88
 is of sufficient clarity and requires a 89
 weight of effort that is within our 90
 capability to sustain during a 91
 protracted cycle of planning and 92
 execution. The net effect of this 93
 successive devolution from over- 94
 arching strategy to highly discrete 95
 task elements is to construct a 96
 synergistic structure of interrelated 97
 actions that will progress the overall 98
 effort to the desired conclusion. 99
 Furthermore, it will maximize 100
 effective use of our capabilities while 101

minimizing the likelihood of 23
unintended, and potentially 24
undesired, consequences (e.g., 25
unnecessary enemy noncombatant 26
casualties, unwarranted risk to 27
friendly forces). 28
29

□ Since the underlying purpose of 30
military operations is to affect change 31
in enemy behaviors, the other critical 32

activity of this phase in the joint 1
targeting process is the development 2
of measures of effectiveness to focus 3
target development and assess 4
whether objectives have been 5
attained. These measures of 6
effectiveness will be the critical 7
ingredient when the joint targeting 8
process turns to the task of assessing 9
the degree of success achieved in 10
executed operations and attempts to 11
assist the JFC with recommendations 12
for follow on COA. 13
14

**b. Phase 2 — Target Development, 15
Validation, Nomination, and 16
Prioritization 17
18**

□ Enemy behaviors toward which the 19
commander's objectives are enabled 20
by capabilities. These capabilities are 21
themselves enabled by physical and 22
virtual infrastructures. For example, 23
an electric power system provides 24
energy through the physical 25
generation and distribution processes, 26
under the virtual energy system 27
management process. 28
29

□ Critical to the success of the entire 30
targeting process is the establishment 31
of intelligence requirements during 32
this phase. This intelligence support 33
is vital for the analysis performed in 34
target development, as well as to 35

prepare for emergent and/or TSTs 36
during the execution of operations 37
(e.g., to pretask real-time intelligence, 38
surveillance, and reconnaissance 39
assets) and to support postattack 40
assessment of success. 41
42

□ It is vitally important to understand 43
that target development always 44
approaches enemy capabilities from 45
the perspective of being enabled by 46
target systems. A target system is 47
most often considered as a collection 48
of assets directed to performing a 49
specific function (e.g., production of 50
electric power) and being broadly 51
geographically bounded. While 52
target systems are intradependent to 53
perform a specific function, they are 54
also interdependent in support of 55
enemy capabilities (e.g., the electric 56
power system may provide energy to 57
run the enemy's railroads that are a 1
key component of their military 2
logistic system). Target development 3
links these multiple target systems 4
and their components (targets) in 5
matrices that reflect both their intra- 6
and inter-dependency with elements 7
of tasks that, in the aggregate, 8
contribute to the accomplishment of 9
objectives. 10
11

□ The analysis performed in target 12
development must be conceived of as 13
proceeding through successively 14
greater levels of detail, flowing from 15
the macro- (broad scope) level to the 16
micro- (narrowly focused) level. 17
This winnowing approach to the 18
selection of candidate targets is 19
essential to preserve the linkage 20
between the JFC's objectives, in 21
terms of the desired outcomes, and 22
the specific action that is taken 23
against a particular target. 24

Furthermore, it determines the 25
necessary type and duration of effect 26
that must be exerted on each target to 27
generate a functional outcome that is 28
consistent with an end state that 29
supports the objective. 30

31

□ Target development is made most 32
effective by accessing the greatest 33
possible breadth of subject matter 34
expertise and information regarding 35
the functioning of the physical and 36
virtual systems that support enemy 37
behaviors. This research is improved 38
by expanded contact beyond that 39
normally available within a JFC's 40
planning staff. The ultimate goal of 41
this expansive research is to locate 42
exploitable vulnerabilities in the 43
enemy's warfighting and/or war- 44
sustaining resources and to prepare 45
for the process of matching our force 46
capabilities against those critical 47
weak points. 48

49

□ Integral to target development is the 50
validation of the target, to determine 51
whether it remains a viable element 52
of the target system and therefore 53
capable of producing the results we 54
seek. Equally important in the 55
validation of the target is the 56

determination of its permissibility 1
under the provisions of the Law of 2
Armed Conflict (LOAC), as well as 3
any promulgated ROE. For example, 4
attacking a national religious shrine 5
in an attempt to demoralize an 6
enemy's populace and diminish their 7
will to support continued hostilities is 8
considered an illegal act under the 9
provisions of the LOAC. 10

11

□ Once potential targets, in the form of 12
exploitable vulnerabilities, are 13

identified and validated, they are 14
nominated through the proper 15
channels for approval, generally 16
involving their deliberation in a 17
coordinating body that represents the 18
interests of all major joint force 19
components. Targets are prioritized 20
based on the JFC's objectives and 21
guidance and the mutual support 22
required between joint force 23
components as they strive to achieve 24
the JFC's desired outcomes. 25
26

□ The net result of target development 27
is to produce a target nomination list 28
which identifies those elements 29
within an adversary's infrastructure 30
and doctrine, that most closely 31
supports the behavior the commander 32
of a combatant command (CINC), 33
seeks to modify and which has been 34
vetted through all joint force 35
component concerns. In addition to 36
enumerating these candidate targets, 37
the nomination list also includes 38
specific functional outcomes that 39
must be created at each target to 40
achieve the JFC's objectives, and any 41
stipulations that may affect how those 42
functional outcomes may be created 43
(e.g., nearby collateral damage risks). 44
This supporting documentation is 45
critical to frame the force estimation 46
performed in the next phase and to 47
facilitate the assessment of success 48
achieved at the conclusion of 49
operations. 50

51

c. Phase 3 — Capabilities Analysis 52 53

□ Coincident with the determination of 54
targets and desired outcomes for 55
those targets, it is necessary to select 56
the most promising lethal and 57

nonlethal forces for application 1

against those targets. 2

3

□ This phase of the joint targeting cycle 4 involves the estimative analyses of 5 the most likely outcome resulting 6 from the use of lethal or nonlethal 7 capabilities to achieve effects against 8 specific targets. Its purpose is to 9 weigh the relative efficacy of the 10 available forces as an aid to 11 facilitating the JFC's decision 12 regarding which COAs or COA 13 elements to employ in operations. 14 These estimates build upon the 15 analysis performed in target 16 development, both for information 17 that characterizes the physical and 18 functional vulnerability of the target 19 and for a connecting thread of logic 20 to the JFC's objectives and guidance. 21 Consequently, the modeled results of 22 forces resulting from this phase must 23 be congruent with the JFC's intent for 24 the prosecution of combat operations. 25

□ The estimates are generated using 26 mathematical models that take into 27 account the targets physical and 28 functional vulnerabilities, 29 performance data on the forces 30 contemplated for application against 31 the target, and delivery parameters 32 associated with the delivery of those 33 forces. 34

35

□ It is critically important to stress that 36 all estimates generated during this 37 phase are situation-specific, reflecting 38 the pairing of particular forces against 39 particular targets, under particular 40 conditions of employment. As such, 41 users of this information are 42 cautioned against assuming that the 43 estimated effectiveness of a force 44 capability under one set of 45 circumstances is broadly applicable 46 to other circumstances, particularly in 47

light of the tendency of relatively 48 minor variations in input data to have 49 an exaggerated effect on output 50

estimates. It is equally important to 1 stress that these estimates of 2 performance are not designed to take 3 into account considerations outside of 4 the realm of weapon-target 5 interaction (e.g., they do not address 6 whether or not the delivery system 7 will survive to reach the target). 8 Estimates of consequences beyond 9 the weapon-target interaction are 10 deemed far too speculative and are 11 subject to extreme bounds of 12 uncertainty to prove of any value in 13 quantitative analyses of capability 14 performance. 15

16

□ The joint targeting process allows all 17 components access to information 18 and methodologies used in 19 determining which type and level of 20 force has a greater likelihood of 21 generating the desired outcomes at 22 the target. In addition, the 23 methodologies and data used for 24 capability analyses are also capable 25 of producing estimations of collateral 26 damage risk to noncombatants and 27 nontargeted facilities. 28

29

□ Once the analyses of capabilities are 30 completed, the results can be merged 31 with their associated target 32 nominations to create the actionable 33 items under the COA 34 recommendations. Thus the joint 35 targeting process has supported the 36 determination of what needs to be 37 done (produced in target 38 development) with complementary 39 recommendations regarding the most 40 promising means to achieve the 41 desired ends. The critical element 42

preserved in this linear process of the 43
first three phases of the joint targeting 44
cycle is the logic trail that links 45
outcomes to the JFC's objectives and 46
guidance. 47

□ At the conclusion of this phase, 48
vetted force option lists will be 49
compiled for inclusion in the COA 50
recommendations to be presented to 51
the JFC. 52

53

d. Phase 4 — Commander's Decision 54 and Force Assignment 55

56

□ COAs are complete and ready for the 57
JFC's review and decision making 58
when they contain the objective- 59
driven results of target development 60
with all of the associated 61
recommendations of forces to be 62
applied. This occurs after the target 63
nomination lists, and associated 64
forces, are vetted through the 65
appropriate coordinating bodies 66
representing the joint force 67
components to ensure synergistic 68
application of effort and to minimize 69
the likelihood of operational 70
conflicts. 71

72

□ Once the JFC has decided which 73
COAs, or elements thereof, to 74
execute, tasking orders are prepared 75
and released to the executing 76
components and forces. The joint 77
targeting process facilitates the 78
publication of tasking orders by 79
providing amplifying information 80
necessary for detailed force-level 81
planning of operations. 82

83

□ The joint targeting process is also 84
responsible for providing the 85
documentation that maintains the 86
logical linkage between objectives 87
and guidance and the operations 88

being undertaken. This 89
documentation traces the analytical 90
reasoning that supported the 91
nominated targets and the details of 92
the capability effectiveness estimates. 93
The work of operations planners is 94

significantly enhanced when they are 1
furnished with detailed insights into 2
the reasoning that resulted in their 3
tasking. Furthermore, because the 4
pairings of capabilities against targets 5
at the joint force level are of necessity 6
made using nominal weapon and 7
weapon system performance data, 8
there may be divergences with more 9
current and/or specific data used by 10
force-level planners. Making the 11
factors used in joint force planning 12
available to the operations planners 13
and providing them real time 14
collaboration capability with joint 15
force level targeting specialists 16
enable adjustment and fine-tuning of 17
operational planning. It also provides 18
a channel to discuss mitigation of risk 19
for the attacking force, since 20
variations in tactics may be required 21
that could affect the results achieved 22
at the target and the joint targeting 23
process must be aware of these 24
variations and adjust success 25
expectations accordingly. This is a 26
critical path of information flow that 27
reduces the likelihood of 28
“disconnects” between what was 29
expected at the joint force level and 30
what was actually achieved at the 31
force level, which has been a problem 32
that has traditionally plagued the 33
execution of military operations. 34
Ultimately, the exchange of 35
information at this phase, and the 36
reconciliation of a common operating 37
picture are critical elements in the last 38
phase of the joint targeting process 39

where outcomes are analyzed and 40
future actions are determined. 41
42

□ Thus, at the conclusion of this phase, 43
the stage is set for the planning and 44
execution of operations that perform 45
discrete tasks in synergistic support 46
of over-arching objectives. 47
48

e. Phase 5 — Mission Planning and 49 Force Execution 50

51

□ Upon receipt of tasking orders, 52
detailed planning must be performed 53
for the execution of operations. The 54
joint targeting process supports this 55
planning by providing the 56
component-level planners direct 1
access to detailed information on the 2
targets, supported by the analytical 3
reasoning that linked the target with 4
the desired effect. 5

6

□ When operations are executed the 7
battlespace begins to alter as the 8
enemy responds to our operations. A 9
dynamic of changing circumstances 10
arises in which it is necessary to 11
adjust implemented COAs and 12
commence implementation of follow- 13
on actions and development of new 14
COAs. The joint targeting process 15
monitors execution to avail the JFC 16
and the components the greatest 17
possible degree of agile analytical 18
capability to maintain the edge of the 19
initiative as the war evolves (e.g., 20
developing COAs in near real time to 21
deal with mobile and TSTs). 22

23

f. Phase 6 — Combat Assessment 24 (see Figure II-2) 25

26

□ A most crucial aspect of securing and 27
maintaining the tactical, operational, 28
and strategic advantage is the 29

collection of data to facilitate 30
development of assessments of the 31
degree of success attained in 32
operations. In performing this 33
function, the joint targeting process 34
provides short-term assistance for 35
decision making that affects the 36
course of the evolving war and 37
directs long-term decision making on 38

the composition and capabilities of 1
future forces. The joint targeting 2
process performs coordinated combat 3
assessment using analytical expertise 4
in capability effectiveness and target 5
response, combined with the 6
analytical basis that linked objective 7
to task in the initial COA 8
formulation. This combination of 9
expertise and documentary trail is 10
essential to provide the JFC a fully 11
developed picture of the degree of 12
success and a basis for charting future 13
objectives and actions in the conduct 14
of the emerging war. 15

16

□ Combat assessment is composed of 17
three interrelated components: battle 18
damage assessment (BDA); 19
munitions effect assessment (MEA); 20
and future COA or reattack 21
recommendations. 22

23

□ BDA is the complementary activity to 24
the selection of targets performed in 25
target development. It takes a three- 26
phased approach to proceed from a 27
micro-level examination of the 28
damage or effect inflicted on a 29
specific target to ultimately arriving 30
at macro-level conclusions regarding 31
the functional outcomes created in the 32
target system, retracing the macro-to- 33
micro path of analysis in target 34
development. The first phase 35
examines the outcomes at the specific 36

targeted elements, the second phase 37 estimates the functional consequences 38 for the target system components, and 39 the third phase projects results on the 40 overall functioning of the target 41 system, and the consequent changes 42 in the enemy's behavior. The 43 purpose of BDA is to compare what 44 was actually accomplished after the 45 attack to what target development 46 determined should be accomplished 47 when the COAs were being 48 formulated. Consequently, a critical 49 ingredient for effective BDA is 50 detailed familiarity with all aspects of 51 the analysis performed in the target 52 development that justified the 53 executed COA and its linkage to the 54 JFC's objectives and guidance. 55 56

□ MEA is the corresponding activity to 57 BDA, and directs its assessments to 58 after-the-fact studies of how 59 capabilities were performed and the 60 method in which they were applied. 61 It complements the estimative 62 analyses of capability assessment by 63 examining the forensic evidence after 64 attacks to determine whether 65 weapons and weapon systems 66 performed as expected. The purpose 67 of MEA is to compare the actual 68 effectiveness of the means employed 69 to their anticipated effectiveness 70 calculated during the capability 71 assessment phase of the joint 72 targeting process. The results of 73 MEA support both near-term 74 improvement in force employment 75 tactics and techniques and long-term 76 improvements in lethal and nonlethal 77 capabilities. Consequently, a critical 78 ingredient for effective MEA is 79 detailed familiarity with all inputs to 80 the calculations performed in 81 capability assessment that paired 82

forces with target nominations in the 83 executed COA and its linkage to the 84 JFC's objectives and guidance. 85 86

□ Future COA development, also 87 referred to as reattack 88 recommendation, merges the picture 89 of what was done (BDA) with how it 90 was done (MEA) and compares the 91 result with predetermined measures 92 of effectiveness that were developed 93 at the start of the joint targeting 94 process. The purposes of this phase 1 in the process are to determine degree 2 of success in achieving objectives and 3 to formulate any required follow-up 4 actions, or to indicate readiness to 5 move on to new tasks in the path to 6 achieving the overall JFC objectives. 7 This last activity in the final phase 8 both completes and begins the joint 9 targeting process anew by linking the 10 achieved outcomes with stated 11 objectives that began the cycle. 12

Appendix B

JP 2-01.1 Chapter VIII Intelligence Role in Combat Assessment

1. **Overview.** This chapter focuses on intelligence support to the final phase of the targeting cycle, combat assessment (CA). It begins by discussing the goals of CA and introducing its key elements: battle damage assessment, munitions effects assessment and the reattack recommendation.
2. **Combat Assessment.** Combat assessment is defined as the determination of the overall effectiveness of force employment during military operations. Combat assessment is composed of three major components; battle damage assessment (BDA), munitions effects assessment, and reattack recommendation (See Fig. VIII-1).

Figure VIII-1. Components of Combat Assessment



CA effectively “closes the loop” and feeds the other elements of the targeting process. It determines if the objectives for an operation are being met. To make this determination, three questions need to be answered. First, were the JFC’s objectives met? Second, did the forces assigned perform as expected? Finally, if the objectives were not met, or if the employed forces did not perform as expected, what can be done to fix the problem areas? From the answers to these questions, an assessment can be made as to the overall effectiveness of the forces assigned in combat and future COAs can be recommended. The combatant command and the JFC should establish a combat assessment management system and combine the expertise of operations and intelligence staffs. Targeting analysts provide objective assessments to planners, gauging the overall impact of military operations against adversary forces as well as providing an assessment of likely enemy reactions and counteractions. A comprehensive CA program greatly assists the JFC in determining future COAs and operations.

- A. Battle Damage Assessment (BDA).** BDA is defined as an estimate of damage or degradation resulting from application of military force, either lethal or non-lethal, against a target. This estimate should be timely and accurate. BDA is primarily an intelligence responsibility with required inputs and coordination from the operators. BDA is composed of Physical Damage Assessment (Phase 1), Functional Damage Assessment (Phase 2), and Target System Assessment (Phase 3). It answers the question, “Were the strategic, operational, and tactical objectives met as a result of the forces employed against the selected targets”. (See Fig. VIII-2)

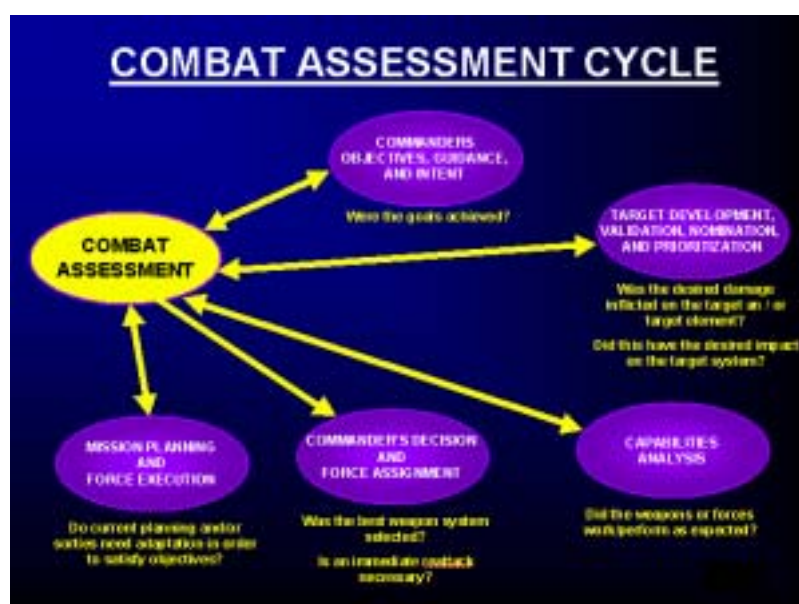


Figure VIII-2. Combat Assessment Cycle.

- (1) The most critical ingredient for effective BDA is a comprehensive understanding of the JFC’s objectives and how they relate to a specific target. BDA objectives and how they relate to a specific target can be evaluated by conducting physical damage, functional damage, and target system assessments. The JFC should provide a comprehensive strategy, together with the intelligence architecture, to support BDA. Pre-conflict

planning requires competent collections officers with a thorough understanding of all collection systems capabilities (both organic collection assets and national collection resources) as well as their availability. Additionally, the targeting analysts should have a basic understanding of the collection systems supporting the operation.

- (2) During combat, BDA reporting must follow standardized formats and should be passed to command planners and force executors immediately. BDA should use all-source intelligence to help answer the JFC's Prioritized Information and Intelligence Requirements PIRs and to formulate subsequent battle plans. The BDA quick guide (PC-8060-1-96/ unclassified) produced by the Defense Intelligence Agency (DIA) serves as a ready-reference on: General BDA information, physical and functional damage assessment definitions, generic BDA worksheets and post-operations BDA activities. The BDA Handbook (DI-2820-2-99 / classified) produced by DIA, was developed as a user-friendly document to support BDA analysis during military operations and to assist in providing basic training for BDA team members.

B. Physical Damage Assessment. Is defined as the estimate of the quantitative extent of physical damage (through munitions blast, fragmentation, and / or fire damage effects) to a target resulting from application of military force. This assessment is based upon observed or interpreted damage. Physical damage assessments are often subjective and vary in content based on training and experience. The BDA analyst is mainly concerned with the physical damage caused to the target, however, experienced analysts report all craters in the vicinity of the target (i.e., ordinance that missed the target), as well as, all additional and collateral damage.

- (1) BDA analysis should be a coordinated effort among combat units, component commands, the JTF, the combatant command, national agencies, supporting commands, the NMJIC, and the primary theater BDA cell. Some representative sources for data needed to make a physical damage assessment include the following: mission reports, imagery, cockpit video, weapon system video, visual / verbal reports from ground spotters or combat troops, controllers and observers, artillery target surveillance reports, SIGINT, HUMINT, IMINT, measurement and signatures intelligence (MASINT), and open-source intelligence (OSINT). Depending on the importance / significance of the target, the unit that engaged the target may be directed to assess the physical damage (visually) and make a recommendation for an immediate reattack based on initial observations.

c. Functional Damage Assessment. Is defined as the estimate of the effect of military force to degrade or destroy the functional / operational capability of a target. The ultimate objective is to prevent the target from performing its intended mission or function. Functional assessments are inferred from the assessed physical damage and all source intelligence information. This assessment must include an estimation of the time required for recuperation or replacement of the target's function. Functional damage assessments are typically conducted by the combatant command, in conjunction with support from the national-level assets. BDA analysts then need to compare the original objective for the attack with the current status of the target to

determine if the objective has been met. In terms of a non-lethal (non-kinetic) attacks, BDA is not as easy to perform as with lethal weapons and all the physical evidence left behind. Therefore, non-lethal BDA begins with a functional damage assessment due to the lack of physical destruction. Functional damage assessments can be achieved if detailed (long term / 6months to 1-2 years) pre-strike analysis of the target is developed. Once the analysis is completed, then collection assets can monitor key components and/or operations to obtain an estimate of the functional degradation.

- d. Target System Assessment.** Is defined as the broad assessment of the overall impact and effectiveness of the full spectrum of military force applied against the operation of an enemy target system or total combat effectiveness (including significant subdivisions of the system) relative to the operational objectives established. These assessments are normally conducted at the combatant command level, and are supported by national-level assets and possibly other commands, which may provide additional target system analysis. The combatant command fuses all component BDA reporting on functional damage to targets within a target system and assesses the overall impact on that system's capabilities.
- 3. Munitions Effects Assessment (MEA).** MEA is an assessment of the military force applied in terms of the weapon system and munitions effectiveness to determine and recommend any required changes to the methodology, tactics, weapon systems, munitions, fusing, and / or weapon delivery parameters to increase force effectiveness. MEA is conducted concurrently and interactively with BDA assessments. MEA is primarily the responsibility of operations, with inputs and coordination from the intelligence community. MEA target analysts seek to identify, through a systematic trend analysis, any deficiencies in weapon system and munitions performance or combat tactics by answering the question, "Did the forces employed perform as expected?" Using a variety of inputs, operators prepare a report assessing munitions performance and tactical applications assessing information from targeting analysts, imagery analysts, intelligence analysts, structural engineers, weaponeers, and mission planners. The report details weapon performance against specified target types. If attacked targets are captured by combat troops, MEA and BDA teams can be used to gather detailed information called "Ground Truth" on the target and how the munitions functioned against it. This information could have a crucial impact on future operations and the quality of future BDA. MEA can continue years after the conflict. Archiving BDA data collected during the conflict is paramount to this long-term effort.
- 4. Reattack Recommendation (RR).** RR is defined as an assessment, derived from the results of BDA and MEA, to provide systematic advice on reattacking targets and future target selections to achieve the JFC's objectives. The reattack recommendation considers the achievement of the objective, the target, aimpoint selection, attack timing, tactics, weapon system and munitions selection. The reattack recommendation is a combined operations and intelligence function and must be assessed against the relative importance of that target to the targeting effort / campaign being run at the present time.

5. Federated Battle Damage Assessments (FBDA). FBDA is defined as the intelligence community's (IC) virtual partnership in sharing the responsibility and expertise in battle damage assessments, that extends beyond the borders of each Unified Command's Area of Responsibility (AOR). It is a burden-sharing approach between the IC centers to reduce deployment costs while maximizing the use of existing resources, personnel and our considerable investment in command, control, communications, computers, and intelligence (C4I). During a crisis or war within the area of responsibility (AOR) of a supported CINC, and depending on the size and scope of the operation, a single command may not be able to handle all of the BDA analysis generated by the operation. Federated BDA allows the supported CINC to request support from outside the theater. The theater CINC federates the BDA to multiple commands and agencies. Each outside agency will be assigned specific targets, either by individual target sets / categories or by geographic region. J2T may act as a facilitator for CINC's to federate BDA reporting responsibilities. FBDA provides a division of labor and maximizes resources. During Operations DESERT FOX and ALLIED FORCE, the federated BDA structure allowed USCENTCOM and USEUCOM to receive assistance from the NMJIC, USJFCOM, USSTRATCOM and intelligence centers like JAC-Molesworth.

Appendix C

Excerpted Comments on Joint Pub 3-60

0-12	<p>SOUTHCOM MAJOR Reference: Page viii, line 8-11</p> <p>Add more emphasis of Information Operations (IO) target planning:</p> <p><u>“Information operations capabilities can be used”</u></p> <p>Rationale: This document fails to adequately accommodate the use of Information Operations and the integrating strategy of Information Operations. It fails to define key terminology often used and necessary in targeting, and particularly in IO targeting (addressed below). Much more emphasis on IO targeting as defined in JP 3-13 Chapter II Paragraph 5 needs to be addressed. There is no real mention of the various aspects/uniqueness of IO targeting and training. The publication should address the unique aspects of intelligence support to IO (the difficulties) and the requirement to effective/efficient/relevant IO Measures of Effectiveness (MOE) for Combat Assessment. IO requires the same level of detailed target development, validation and mission planning as required for SOF. In general add more details on IO targeting as one of the principal BOS for the new millennium.</p>
2-42	<p>CENTCOM SUBSTANTIVE Reference: page II-9, Fig II-2. Change to read:</p> <p>"Munitions Effectiveness" to read "Delivery System Effectiveness" or "Attack Effectiveness".</p> <p>RATIONALE: The current combat assessment model fails to account for the requirement to assess non-lethal attacks. The combat assessment model must reflect the requirement to conduct non-lethal as well as lethal analysis.</p>
2-44	<p>USAF MAJOR Reference: Page II-9, line 27 through page II-10, line 15. Replace entire paragraph with the following:</p> <p><u>“Combat assessment is a crucial part of operations. The joint targeting process provides short-term assistance for immediate decisions and aids long-term planning for the composition and capabilities of future forces. This documentary trail is essential to provide the JFC a fully developed picture of the battlefield. A critical ingredient for effective BDA is an understanding of all aspects of target development and its link to the JFC’s objectives and guidance.”</u></p> <p>RATIONALE: Clarity. Eliminates the improper use of the term COA</p>

2-47	USAF MAJOR	Reference: Page II-10, line 24. Replace entire paragraph with the following: “BDA takes a three-phased approach to combat assessment . First, it examines the damage inflicted on a specific target. Second, it looks to see if damaging the target brought about the desired effect on the JFC’s objectives. Third, if requested by the JFC, BDA can provide feedback as to how the JFC’s objectives are impacting the enemy’s ability or desire to oppose our will. A critical ingredient for effective BDA is detailed familiarity with all aspects of the target development process.” RATIONALE: Clarity. Eliminates the improper use of the terms COA and uses effects based operations terminology.
2-53	JFCOM SUBSTANTIVE	Reference: page II-11, line 14 through page II-12, line 39. Delete all of Chapter II, Section 1.g. REASON: Inappropriate and redundant content. The way this section is portrayed in the text is as if it is a “seventh phase” of the joint targeting cycle (i.e. Phases 1 through 6 are described in Sections 1.a. through 1.f.). Furthermore, everything it purports to “assess,” which is of interest to the joint targeting process, is embodied in combat assessment , Phase 6 of the joint targeting cycle. This is particularly confusing to the reader since the last sentence in Section 1.f., states of combat assessment that “This last activity in the final phase both completes and begins the joint targeting process anew by linking the achieved outcomes with stated objectives that began the cycle.”
2-55	ARMY MAJOR	Reference: Page II-11 -II-12, paragraph g. Lines 14-51 and 1-39, Delete the entire paragraph on strategic and operational effects assessment. In addition add the following after line 12 on page II-11: <u>For information on combat assessment refer to JP 2-01.1, Intelligence Support to Targeting.</u> RATIONALE: Clarity and brevity . Phase 6, Combat Assessment , up to this portion of the material, is sufficient to describe the measures taken to complete the joint targeting cycle. The addition of the section I would like to delete provides confusing details and causes the reader to drift away from the overall purpose of this section -- concise descriptions of the targeting cycle phases. Targeting effects is also adequately and appropriately covered in chapter 1 of this pub.
2-57	USAF SUBSTANTIVE	Reference: Page II-12, line 44. Change to read, “The joint targeting process, and more specifically the combat assessment process, does not end when hostilities cease...” RATIONALE: Clarity. Also consistent with explanation in Phase 6 in previous section and in what was accomplished by the JTF Noble ANVIL Combat Assessment team during the post conflict resolution phase of Operation ALLIED FORCE
2-59	CENTCOM SUBSTANTIVE	Reference: page II-12, Line 56. Change to read: “Determine the true effectiveness of employed delivery system munitions .” RATIONALE: The combat assessment model must reflect the requirement to conduct non-lethal as well as lethal analysis. This is not in accordance with other joint pubs regarding targeting.
3-61	EUCOM SUBSTANTIVE	Reference: page III-8, page 41. Change to read: Add “- Executive agent for overall coordination and direction of the JFC Combat Assessment (CA) cell” RATIONALE: J3 has the overall lead for Combat Assessment which not only includes BDA, but also MEA and reattack recommendations.

3-68	EUCOM SUBSTANTIVE	Reference: page III-9, line 1 Change to read: Change “ combat assessment (CA)” to “battle damage assessment (BDA)” Add after “JISE” – “to support the J3 CA cell” RATIONALE: Accuracy.
3-105	ARMY MAJOR	Reference: Page III-12, paragraph 9.c, lines 21 - 25. Delete: “JFC may support other commander’s combat assessments of land and naval activity as the supported commander for airborne surveillance and reconnaissance.” RATIONALE: The statement addresses the JFC. This section is supposed to be a discussion of the JFACC responsibilities.
5-1	J5 SUBSTANTIVE	Reference: page V-1, lines 13-14. Change to read "... Combat assessment is conducted at the strategic, operational, and tactical levels of war or MOOTW ." <u>Rationale:</u> Term is outdated. Elimination of "MOOTW" does not detract from the intent of the sentence. If clarification is required, the term "contingency" is consistent with language in the JSCP.
5-2	J5 SUBSTANTIVE	Reference: page V-2, lines 4-9. Change to read "... Strategic effects assessment is focused on the effectiveness of strategic-level effects on both side during war or MOOTW . It provides guidance for high-level decisions on military and national strategy. Operational effects assessment is focused on the effectiveness of operational-level effects on both sided during war or MOOTW . It can be used to determine phase shifts, etc. that are of operational concern. Combat assessment (CA) also focuses on the overall tactical effects assessment of war or MOOTW at the component level." <u>Rationale:</u> Term is outdated. Elimination of "MOOTW" does not detract from the intent of the sentence. If clarification is required, the term "contingency" is consistent with language in the JSCP. <u>NOTE:</u> If comments are accepted, eliminate "MOOTW" from the Glossary.
C-7	USAF SUBSTANTIVE	Reference: Page C-7, lines 21-29 . Change to read: “The CA phase conducts post-strike collection, analysis, and reporting of information on sorties/weapon system effectiveness. Post-strike assessment measures objective achievement, and as necessary, supports objective refinement, reattack recommendations, or new target development requirements. Combat assessment evaluates combat operations effectiveness in achieving objectives and recommends changes to tactics, strategies, objectives, and guidance. It accomplishes this via three sub-components: Mission Assessment, Battle Damage Assessment, and Munitions Effectiveness Assessment. CA compares the results of the operation to the objectives to determine mission success or failure within the guidance parameters. More important than a review, it looks forward to determine if additional missions are needed and/or if modification to the objectives are necessary.” RATIONALE: Completeness

C-16	<p>J7 MAJOR Reference: <u>Page C-16 para 7c line 1</u>. Change to read as follows:</p> <p>"The CINC conducts campaign and special contingency joint operation planning on a continuing basis. These include competing OPLAN/operation plan in concept format (CONPLAN) targeting, annexes M, C, and G, and Combat Assessment annexes and targeting development for special contingency joint operation plans. . . . Crisis operations occur as a result of NCA/CJCS planning or warning orders <u>are in response to events in the real world</u>. They are often in response to enemy action which does not trigger a larger OPLAN/CONPLAN response. Contingency operations generally have limited scope, duration, and objectives, but may be a prelude to more robust operations. These operations may be executed by subordinate JTFs, but usually include close oversight by the appropriate unified command <u>and the NCA and/or Joint Chiefs of Staff</u>. Targeting mechanisms should exist at multiple levels. The NCA or headquarters senior to JFCs may provide guidance, priorities, and targeting support to JFCs. Joint force components identify requirements, nominate targets that are outside their AO operational areas or exceed the capabilities of organic and supporting assets (based on the JFC's air apportionment decision), and conduct execution planning."</p> <p>RATIONALE: Consistency with JP 5-0. Correctness. The JCS have no command authority. The JFACC makes target nominations but has no AO.</p>
	<p>NAVY GENERAL SUBSTANTIVE</p> <p>Throughout chapter 3, section 8 and 9 states that each Service or Functional Component Commander will normally provide Combat Assessment (CA) to the JFC and other components. The inference is that each Component Commander is responsible for CA, which is not consistent with joint or the preponderance of theater doctrine. Recommendation: Change draft JP 3-60 to reflect following: "support JFC combat assessment (CA) by providing Battle Damage Assessment (BDA), Munitions Effectiveness Assessment (MEA) and Re-Attack Recommendations (RAR) on enemy activity to JFC and other Components."</p>
	<p>J2 ADMINISTRATIVE CONT'D</p> <p>Page III-8, line 41 Add "- Executive agent for overall coordination and direction of the JFC Combat Assessment (CA) cell"</p> <p>Rationale: J3 has the overall lead for Combat Assessment that not only includes BDA, but also MEA and re-attack recommendations.</p> <p>Page III-9, line 1 Change "combat assessment (CA)" to "battle damage assessment (BDA)" Add after "JISE" – "to support the J3 CA cell"</p>
	<p>USAF ADMINISTRATIVE</p> <p>Page I-4, line 55. Change to read: "Combat assessment <u>During the Combat Assessment phase, the JFC directs theater and national assets to conduct phased BDA reporting and</u> may recommend subsequent engagements as necessary." RATIONALE: Sentence reads better.</p>

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- Air Force Doctrine Document (AFDD) 2–5.2. *Intelligence, Surveillance and Reconnaissance Operations*, 21 April 1999.
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